Supreme Court of the United States.

No. 175.—October Term, 1906.

Computing Scale Company of America, Appellant, vs. The Automatic Scale Company.	Appeal from the Court of Appeals of the District of Columbia.

[February 25, 1907.]

Mr. Justice Day delivered the opinion of the Court.

This is an appeal from the Court of Appeals of the District of Columbia, affirming a decree of the Supreme Court of the District dismissing the bill of the Computing Scale Company of America, appellant, against the Automatic Scale Company, based upon the alleged infringement of letters patent No. 700,919, granted to the complainant as the assignee of the inventor, Austin B. Hayden, said letters bearing date May 27, 1902, for an improvement in computing scales.

The bill contained a prayer for an injunction and accounting. The answer denied the patentability of the alleged invention of the plaintiff, set up the alleged anticipating invention of one Christopher, and denied infringement.

The alleged improvement of Hayden is shown in the accompanying illustrations taken from the patent:

Fig. 3.

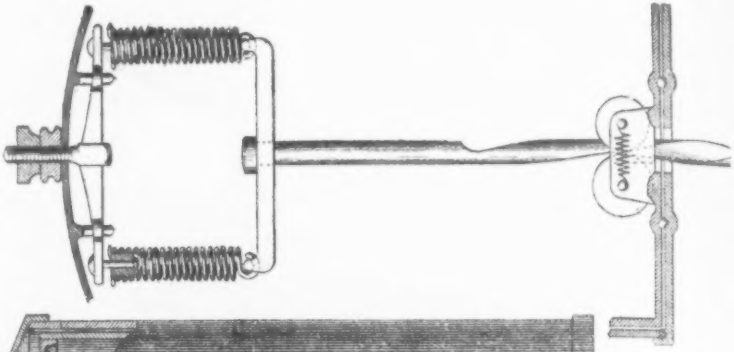


Fig. 2.

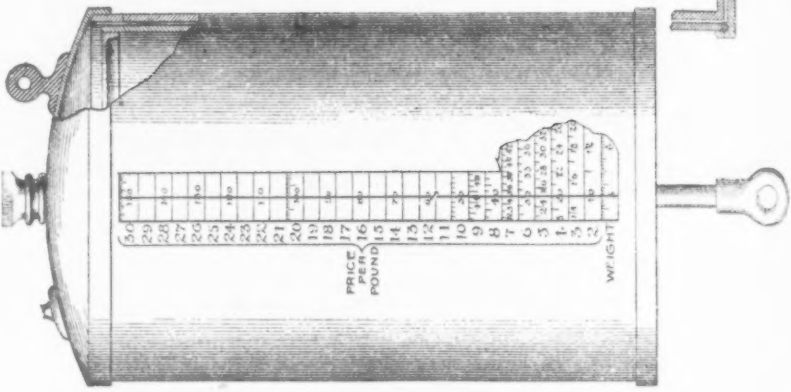
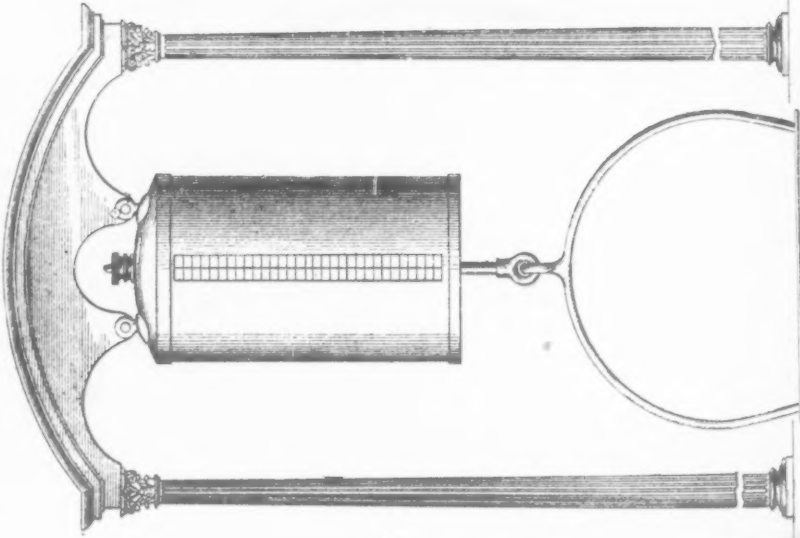


Fig. 1.



To understand these drawings they are to be viewed in the light of the description of the mechanism given by complainant's expert, which has the approval of the expert of the defendant, and was accepted as correct in the Court of Appeals. This description, somewhat abridged, is as follows:

"The two principal parts of the mechanism are as follows: 1st, a vertically arranged, non-rotating frame which comprises and includes a vertical cylindrical casing which encloses, conceals and protects the major portion of the operating portions of the scale, and upon which are marked the price indications which indicate the price per pound at which the articles weighed are to be sold. As clearly shown in the drawings this external casing or frame is provided with a vertically disposed sight opening through which the coacting mechanism is observable, and along one vertical edge of this sight opening are arranged the numerals indicating the price per pound.

"The second of these principal parts is a second cylinder located within the casing, this cylinder constituting a computing cylinder or chart drum upon which are placed indications indicating the weight in pounds of the article weighed, and also having other indications indicating the price of an article weighed corresponding to the weight and to the price per pound. This chart drum or computing cylinder extends vertically within the external casing and it is arranged to rotate on a vertical axis within the external casing. This casing is appropriately connected to the spring balancing mechanism and to the scale pan so that when the spring balancing mechanism moves up and down on the placing or removing of a load on the scale pan, the chart drum will be rotated in one direction or the other within the external casing or frame.

"As shown in Fig. 2, the weight and value indicating figures are placed in horizontal rows on the external surface or periphery of the rotatable chart drum of the computing cylinder, the weight indications being shown in a horizontal row at the bottom, and the price indications in horizontal rows above, there being as many of these horizontal rows of price indicating figures as there are 'price per pound' indicating figures on the fixed external casing. These value indicating figures on the chart drum are computed at different rates corresponding to the 'price per pound' figures on the external casing. As indicated in figure 2 of the drawings of the patent, there is supposed to be a weight on the scale pan of five pounds, this weight being indicated on the weight scale, and it will be seen that in such instance the various value indications on the chart drum opposite the 'price per pound' indications on the fixed casing, are in each illustrated instance, five times as great as the corresponding 'price per pound' indications. The drawings illustrate only a portion of the indicating figures on the chart drum, but it will be understood in practice that this drum will be entirely covered on its external surface with figures corresponding to the weights multiplied by the figures indicating 'price per pound' on the non-rotatable external casing. Accordingly whenever the interior chart drum is turned a distance corresponding to the load placed on the scale pan, the value of the load can be read at once opposite the figures on the external casing which correspond to the price per pound of the article weighed.

"The various price indications on the chart drum are visible through the sight opening in the external casing.

"The mechanism whereby the chart drum is rotated a distance corresponding to the weight of the load placed on the scale pan is as follows: The balancing mechanism is a spring balance comprising two springs which are suspended from a suitable portion of the non-rotating frame of the scale. To the lower ends of these springs is attached a cross-bar in the middle of which depends a rod, this cross-bar and rod constituting the runner of the scale. (See Fig. 3.) The scale pan is suspended from the lower end of this rod as illustrated in Figure 1. When a load is placed on the scale pan the vertical runner moves vertically downward distending the spring to an extent proportional to the weight of the load. In order to indicate the weight this vertical movement of the spring supported runner is converted or translated into a rotary movement of the chart drum by suitable intervening mechanism. This intervening mechanism consists of a spiral groove of high pitch on the vertical rod and two rollers journaled in suitable bearings carried by the rotable chart drum, the bearings of one of these rollers being spring pressed so that the rollers are held in yielding contact with the spiral groove on the rod. Consequently as the rod moves vertically the spiral groove thereof causes the chart drum or computing cylinder to rotate on its vertical axis.

"Accordingly, the mechanism is such that the vertical movement of the runner is translated into rotary movement of the chart drum and the chart drum is rotated to an extent proportional to the vertical movement of the runner."

In his application, Hayden, having set forth a description of his invention, disclaiming any intention to limit his invention by the precise description of the specifications, except as appears from his claims, sets forth eleven (11) claims, which he alleges as new and desires to secure by letters patent.

The claims alleged to be infringed in this case are numbered 1, 2, 6, 7 and 8. Numbers 1 and 2 are practically alike, except that in No. 2 the spring-supported, load-bearing and cylinder-revolving rod is described as non-rotatably suspended. Claims 6, 7 and 8 have some trifling variations, but, in the view we take of this case, they are sufficiently embodied in claim No. 6. We shall, therefore, consider, in arriving at a decision, claims 1 and 6. They are as follows:

"1. In a spring-balance computing-scale, the combination of a suitably-supported vertical non-rotatable casing provided with a price-index, a vertical rotatable computing-cylinder journaled in said casing, provided with cost computations, a spring-supported load-bearing and cylinder-revolving rod suspended from said casing and connecting means between rod and computing-cylinder, whereby by longitudinal movement of the rod rotary movement is imparted to said cylinder, substantially as and for the purpose set forth.

"6. In a spring-balance, the combination of a non-rotating frame providing an external casing and having means for supporting it from above,

weighing-springs secured at their upper ends to rigid parts of said frame, a vertically-movable runner which is suspended from the lower ends of said springs and is provided with depending means to support the load, a chart-drum rotatably mounted within said casing on a vertical axis and having external horizontal rows of value-indicating figures computed at different rates, said casing having a sight-opening through which portions of said value-indicating rows may be seen, and corresponding rate-indicating figures on the outer face of said frame adjacent to the value-indicating rows on the chart-drum, and mechanism for translating the vertical movement of the runner into the rotary movements of the chart-drum."

Hayden did not assume to be a pioneer in this field of invention, but he claims to have made an improvement in computing scales of the spring-balance type, and states his object to be specially to increase the computing capacity of scales of that type.

An examination of the record discloses that computing scales have been the subject of prior inventions and were well known at the time of Hayden's application. It is true that the scales disclosed in the prior art were generally those having a horizontal axis, case and cylinder, although it was not new to arrange a scale vertically.

If we are to read the claims as broadly as is contended for and omit for the present vertical construction shown by Hayden, we shall find in the patent of Phinney, No. 106,869, of August 30, 1870, a computing scale having the general elements of a non-rotatable casing, provided with a price index and rotatable cylinder journaled in the case and having computations thereon, a suspended, spring-supported, load-bearing and cylinder-revolving rod, and connecting means between the rod and computing cylinder, to impart rotary motion to the inner cylinder. This is perhaps more emphatically true in the invention of Smith, patent No. 545,619, of September 3, 1895.

In the patent of Babcock, No. 421,805, February 18, 1890, a vertical construction is shown. It is true that Babcock's invention was not automatic in its operation, and required the intervention of the operator to complete the required process, but it serves to show that the idea of vertical construction was not new when Hayden entered the field. Taking the state of the art at that time, it is evident that there is little room to claim a broad construction of Hayden's improvement. It is well settled by numerous decisions of this court that while a combination of old elements producing a new and useful result will be patentable, yet where the combination is merely the assembling of old elements producing no new and useful result, invention is not shown. *Specialty Manufacturing Co.* v. *Fenton Metallic Manufacturing Co.*, 174 U. S. 492–498, and previous decisions of this court there cited.

It is true that many valuable inventions seem simple when accomplished, and yet are entitled to protection. The books abound in cases showing

inventions involving only small departure from former means, yet making the difference between a defective mechanism and a practical method of accomplishing results. In such cases a decision in favor of invention as distinguished from mere mechanical improvement has not infrequently resulted, in view of the fact that the device has made the difference between an impracticable machine and a useful improvement displacing others theretofore occupying the field. *Krementz* v. *The S. Cottle Co.*, 148 U. S. 556; *Consolidated Brake Shoe Co.* v. *Detroit Steel & Spring Co.*, 47 Fed. Rep. 894; *Star Brass Works* v. *General Electric Co.*, 111 Fed. Rep. 398.

In the present case it nowhere appears in the testimony, nor is it claimed in the specifications of Hayden's patent, that the prior mechanisms of horizontal construction were impracticable or inefficient. There is no suggestion that Hayden's invention has been the last step between an inoperative machine and one practically operative and useful. There is no showing that it has been generally accepted in the trade and displaced the former machines used for the same purpose. Without resort to the record in the Patent Office, we think it is plain that the invention is but a small advance upon others already in use.

Broadly considered, the elements of Hayden's invention were in the horizontal machines, and the idea of vertical construction was old. Considering this invention in the light of what occurred in the Patent Office in connection with the other considerations already referred to, and the state of the art at the time, we think Hayden's invention can only be sustained to a limited extent.

Before taking up the record as disclosed in the file wrapper and contents we may premise that it is perfectly well settled in this court by frequent decisions that where an inventor, seeking a broad claim which is rejected, in which rejection he acquiesces, substitutes therefor a narrower claim, he cannot be heard to insist that the construction of the claim allowed shall cover that which has been previously rejected. *Corbin Cabinet Lock Co.* v. *Eagle Lock Co.*, 150 U. S. 38–40, and cases there cited.

A late statement of the rule, and one as favorable to the inventor as the previous cases would admit, is found in *Hubbell* v. *United States*, 179 U. S. 77, 80, as follows:

"An examination of the history of the appellant's claim, as disclosed in the file wrapper and contents, shows that, in order to get his patent, he was compelled to accept one with a narrower claim than that contained in his original application; and it is well settled that the claim as allowed must be read and interpreted with reference to the rejected claim, and to the prior state of the art, and cannot be so construed as to cover either what was rejected by the Patent Office or disclosed by prior devices. *Leggett* v. *Avery*, 101 U. S. 256; *Shepard* v. *Carrigan*, 116 U. S. 593; *Knapp* v. *Morss*, 150 U. S. 221, 227.

"It is quite true that where the differences between the claim as made and as allowed consist of the mere changes of expression, having substantially the same meaning, such changes, made to meet the views of the examiners, ought not to be permitted to defeat a meritorious claimant. While not allowed to revive a rejected claim by a broad construction of the claim allowed, yet the patentee is entitled to a fair construction of the terms of his claim as actually granted."

Looking to the record in the Patent Office, we find that claim 1, as originally presented, read as follows:

"1. In a spring-balance computing scale, the combination of a suitably supported vertical non-rotatable casing provided with a price-index, a vertical rotatable computing-cylinder journaled in said casing, provided with cost computations, a spring-supported load-pan supported from said casing, and means connected with said pan and cylinder for rotating the cylinder as the pan is lowered under pressure, substantially as and for the purpose set forth."

The examiner rejected this claim upon the patent of Smith, No. 545,616, price scales, and in view of the patent of Turnbull, No. 378,382, spring scales, saying, "It would not involve invention to arrange upon Turnbull's scales a vertical stationary casing having within it a revolvable computing chart, the axis being connected with the index-carrying shaft P shown in the Turnbull patent."

To this the applicant, through his attorneys, replied:

"The first portion of the examiner's letter is not understood, as there are no modifications referred to in lines 6 to 26 of page 3. A reconsideration of the claims is requested, for the reason that it is believed that the references cited do not anticipate any of the claims. In both of the references cited a rack-bar extending transversely of the center of rotation of the computing chart serves, by means of engagement with a pinion at the axis of the computing chart, to rotate the latter. This is entirely different from applicant's construction, and it is not seen that the references are pertinent to the issue. Certainly, the references neither singly nor taken together anticipate the structure set forth in the claims, and there can hardly be any question that the construction which applicant shows is a substantial improvement in the art. It is hoped that all the claims may be allowed."

But the examiner again rejected claims 1, 8 and 9 upon the references of record, and held that it would not involve invention to arrange upon the vertical shaft of Turnbull's scale a computing chart and enclosing case having the characteristics of Smith's scale. To this the attorneys for applicant answered:

"These claims are cancelled, not because considered unallowable, but because it is not desired to prosecute an appeal, in view of the fact that the allowed claims appear to cover the invention as it would be constructed in practice. The cancellation is made, therefore, without prejudice to the claims which remain."

The sixth claim was allowed upon the suggestion of the examiner, as follows:

"In a spring balance, the combination of a non-rotating frame providing an external casing and having means for supporting it from above, weighing springs secured at their upper ends to rigid parts of said frame, a vertically movable runner which is suspended from the lower ends of said springs and is provided with means to support the load, a chart drum rotatably mounted within said casing on a vertical axis and having external horizontal rows of value indicating figures computed at different rates, said casing having a sight opening through which portions of said value indicating rows may be seen, and corresponding rate indicating figures on the outer face of said frame adjacent to the value indicating rows on the chart drum and mechanism for translating the vertical movement of the runner into the rotary movements of the chart drum."

It was afterwards stated by the examiner:

"Upon consideration of claim 6 preparatory to the declaration of interference it is found that the claim does not clearly and patentably distinguish from the scale shown in the patent to Herr, No. 651,801, June 12, 1900, Price Scales, and it is therefore necessary to reject the claim. It is believed, however, that the claim may be rendered allowable by inserting *depending* before 'means' in line 6,"

and, accordingly, the word "depending" was inserted in the claim, so as to make it in its present form. How this added anything to the patentability of the mechanism described it is difficult to perceive, in view of the presence of "depending means to support the load" in all scales of this class.

The general rule, as stated, as to the effect of a patentee striking out a broad claim and accepting a narrow one, is conceded by the learned counsel for appellant, but it is contended that if an inventor presents a broad claim and strikes it out and then presents and obtains an equally broad claim, he loses no right by such action, and may justly claim his allowed claim to be a broad one and have relief accordingly. But we think the action of the department in this case cannot be thus eliminated. Claim 1, as presented, had contained the words "a spring-supported load-pan supported from said casing, and means connected with said pan and cylinder for rotating the cylinder as the pan is lowered under pressure," and as allowed there was inserted "a spring-supported load-bearing and cylinder-revolving rod suspended from said casing, and connecting means between rod and computing cylinder, whereby longitudinal movement of the rod rotary movement is imparted to said cylinder, substantially as and for the purpose set forth." This limitation to specific means is certainly a narrowing of the claim.

It was accepted, as the patentee said, "in view of the fact that the allowed claims appear to cover the invention as it would be constructed in practice."

We cannot think it was the intention of the department, after requiring the insertion of "a spring-supported load-bearing and cylinder-revolving rod" and "connecting means between rod and computing cylinder" to secure the rotary movement of the inner cylinder as a means of saving claim 1, to then permit the claim to be granted broadly in allowing other claims. And we believe it would be a more reasonable construction of the letter of the applicant to say that he recognized that his invention, "as constructed in practice," must have read into it to sustain the claim, the specific means shown for translating the vertical movement of the runner into the rotary movement of the chart-drum, rather than as saving a right to construe a claim broadly as including in one claim what had just been refused in another.

It is to be noted that Hayden, in his specifications, says:

"The spiral rod passing through the lower ends of the casing and serving, by means of its connection with the two cylinders, to rotate the computing cylinder is regarded as the essence of this feature of the invention, however, regardless of the precise details of connection between cylinders and rod."

In view of the action of the Patent Office in this case and the acquiescence of the applicant, considered also in view of the state of the art, in our opinion it is necessary to have this novel element of the invention read into them in order to save the claims of Hayden's patent.

Conceding that this spiral rod and its connections with the cylinder in the manner and for the purposes stated is a novel feature in the combination and entitled to protection, it is of that narrow character of invention which does not entitle the patentee to any considerable range of equivalents, but must be practically limited to the means shown by the inventor. The distinction between pioneer inventions permitting a wide range of equivalents and those inventions of a narrow character, which are limited to the construction shown, has been frequently emphasized in the decisions of this court. Gimbels *Unhairing Co.* v. *American Fur Refining Co.*, 198 U. S. 399, 406, and cases therein cited.

Thus limiting the invention, we do not think the construction of the defendant amounts to an infringement. Its mechanism, by means of which the downward movement of the load accomplishes the rotary movement of the cylinder, consists of a bar which has a rod extended upward and carrying a rack which meshes with a pinion on a shaft journaled in bearings on a cross bar of the frame of the machine. On this shaft is a gear meshing with the pinion, secured to an upright shaft journaled in bearings in the frame, and projecting above it so as to receive a light frame composed of cross arms and a circular rim to which the chart drum is secured. The downward movement of the load-supporting hook causes

the rack to move in the same direction, rotating the horizontal shaft by means of the pinion, and this movement is communicated by means of the gearing to the upright shaft carrying the chart drum. The cylinder-revolving rod with its connections, which, as we have seen, was made an essential element to accomplish invention in Hayden's device, is not found. The complainant's expert is of opinion that it is shown in the hook at the bottom of defendant's scale for holding the load pan. We cannot agree to this conclusion; the hook is not the cylinder-revolving spiral rod and does not accomplish its function.

The Court of Appeals held the sixth claim void. We are of opinion that it cannot be allowed for the broad claim "mechanism for translating the vertical movement of the runner into the rotary movement of the chart drum," but must be limited to Hayden's suspended rod with its spiral, engaging with the rollers, or similar devices on the cylinder, practically in the manner and for the purposes shown by him. If the claim be thus limited, for the reasons we have already stated, the mechanism of the defendant does not infringe.

We find no error in the decree rendered by the [redacted] Court of Appeals, and it is

Affirmed.

True copy.

Test:

Clerk Supreme Court, U. S.